



SEQUENCE LISTING

<110> De Sauvage, Frederic J.
Klein, Richard D.
Rosenthal, Arnon
Phillips, Heidi S.

<120> GFRALPHA3 AND ITS USES

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<140> 09/272,835

<141> 1999-03-19

<150> 60/079,124

<151> 1998-03-23

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<210> 1

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<212> DNA

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<400> 1

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<212> DNA

<213> Mus musculus

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ccacttgag caggaaactc ccttgccaca gagaacaggt ttgtgaacag ctgtaccag 180
gccagaaaga aatgcgaggc taatcccgt tgcaaggctg cctaccagca cctgggctcc 240
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<210> 3

<211> 498

<212> DNA

<213> Mus musculus

<400> 3

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cagcagagga	caagaagctt	aaatccgtcg	ccttcccacc	gttcccaggt	ggcagaaact	240
gcttccccaa	acagacggcc	gcccaggtga	ccctcaaggc	catctcggct	cacttcgacg	300
actcgagctc	gtcctcgctg	aagaatgtgt	acttcctgct	cttcgacagc	gagacatcgg	360
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<400> 4

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aatcctgaac	atttgggcat	gaagagctaa	agtctttggg	tcttgtttaa	ctcctattac	1860
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<210> 5

<211> 397

<212> PRT

<213> Mus musculus

RECEIVED
FEB 04 2002
TECH CENTER 1600/2900

<400> 5

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Thr	Glu	Asn	Arg	Phe	Val	Asn	Ser	Cys	Thr	Gln	Ala	Arg	Lys	Lys	Cys
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Glu	Ala	Asn	Pro	Ala	Cys	Lys	Ala	Ala	Tyr	Gln	His	Leu	Gly	Ser	Cys
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Thr	Ser	Ser	Leu	Ser	Arg	Pro	Leu	Pro	Leu	Glu	Ser	Ala	Met	Ser	
65					70					75				80	
Ala	Asp	Cys	Leu	Glu	Ala	Ala	Glu	Gln	Leu	Arg	Asn	Ser	Ser	Leu	Ile
			85						90					95	
Asp	Cys	Arg	Cys	His	Arg	Arg	Met	Lys	His	Gln	Ala	Thr	Cys	Leu	Asp
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Ile	Tyr	Trp	Thr	Val	His	Pro	Ala	Arg	Ser	Leu	Gly	Asp	Tyr	Glu	Leu
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Asp	Val	Ser	Pro	Tyr	Glu	Asp	Thr	Val	Thr	Ser	Lys	Pro	Trp	Lys	Met
	130					135					140				
Asn	Leu	Ser	Lys	Leu	Asn	Met	Leu	Lys	Pro	Asp	Ser	Asp	Leu	Cys	Leu
145					150					155				160	
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			165						170					175	
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			180					185					190		
Cys	Leu	Ala	Gln	Leu	Arg	Ser	Phe	Phe	Glu	Lys	Ala	Ala	Glu	Ser	His
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Tyr	Leu	Gly	Leu	Ile	Gly	Thr	Ala	Met	Thr	Pro	Asn	Phe	Ile	Ser	Lys
	290					295					300				
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Cys	Leu	Val	Glu	Ala	Ile	Ala	Ala	Lys	Met	Arg	Phe	His	Arg	Gln	Leu
			340					345					350		
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<210> 6

<211> 460

<212> PRT

<213> Homo sapiens

<400> 6

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Ser	Asp	Gln	Cys	Leu	Lys	Glu	Gln	Ser	Cys	Ser	Thr	Lys	Tyr	Arg	Thr
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Lys	Asn	Cys	Leu	Arg	Ile	Tyr	Trp	Ser	Met	Tyr	Gln	Ser	Leu	Gln	Gly
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145					150					155					160
Ile	Cys	Lys	Lys	Tyr	Arg	Ser	Ala	Tyr	Ile	Thr	Pro	Cys	Thr	Thr	Ser
				165					170					175	
Val	Ser	Asn	Asp	Val	Cys	Asn	Arg	Arg	Lys	Cys	His	Lys	Ala	Leu	Arg
			180					185					190		
Gln	Phe	Phe	Asp	Lys	Val	Pro	Ala	Lys	His	Ser	Tyr	Gly	Met	Leu	Phe
	195					200						205			
Cys	Ser	Cys	Arg	Asp	Ile	Ala	Cys	Thr	Glu	Arg	Arg	Arg	Gln	Thr	Ile
	210					215					220				
Val	Pro	Val	Cys	Ser	Tyr	Glu	Glu	Arg	Glu	Lys	Pro	Asn	Cys	Leu	Asn
225					230					235					240
Leu	Gln	Asp	Ser	Cys	Lys	Thr	Asn	Tyr	Ile	Cys	Arg	Ser	Arg	Leu	Ala
				245					250					255	
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Leu	Lys	Phe	Leu	Asn	Phe	Phe	Lys	Asp	Asn	Thr	Cys	Leu	Lys	Asn	Ala
				325					330					335	
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His	Val	Leu	Pro	Pro	Cys	Ala	Asn	Leu	Gln	Ala	Gln	Lys	Leu	Lys	Ser
385					390					395					400
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			405						410					415	
Lys	Glu	Gly	Leu	Gly	Ala	Ser	Ser	His	Ile	Thr	Thr	Lys	Ser	Met	Ala
			420					425				430			
Ala	Pro	Pro	Ser	Cys	Gly	Leu	Ser	Pro	Leu	Leu	Val	Leu	Val	Val	Thr

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<210> 7
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 <212> PRT
 <213> Homo sapiens

<400> 7

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Ala	Glu	Ser	Asn	Cys	Ser	Ser	Arg	Tyr	Arg	Thr	Leu	Arg	Gln	Cys	Leu
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Ala	Leu	Glu	Val	Leu	Gln	Glu	Ser	Pro	Leu	Tyr	Asp	Cys	Arg	Cys	Lys
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His	Leu	Gly	Leu	Thr	Glu	Gly	Glu	Glu	Phe	Tyr	Glu	Ala	Ser	Pro	Tyr
	115					120					125				
Glu	Pro	Val	Thr	Ser	Arg	Leu	Ser	Asp	Ile	Phe	Arg	Leu	Ala	Ser	Ile
	130					135				140					
Phe	Ser	Gly	Thr	Gly	Ala	Asp	Pro	Val	Val	Ser	Ala	Lys	Ser	Asn	His
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		180					185					190			
Glu	Arg	Cys	Asn	Arg	Arg	Lys	Cys	His	Lys	Ala	Leu	Arg	Gln	Phe	Phe
	195					200				205					
Asp	Arg	Val	Pro	Ser	Glu	Tyr	Thr	Tyr	Arg	Met	Leu	Phe	Cys	Ser	Cys
	210				215					220					
Gln	Asp	Gln	Ala	Cys	Ala	Glu	Arg	Arg	Arg	Gln	Thr	Ile	Leu	Pro	Ser
225				230				235						240	
Cys	Ser	Tyr	Glu	Asp	Lys	Glu	Lys	Pro	Asn	Cys	Leu	Asp	Leu	Arg	Gly
			245					250					255		
Val	Cys	Arg	Thr	Asp	His	Leu	Cys	Arg	Ser	Arg	Leu	Ala	Asp	Phe	His
		260					265					270			
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Asn	Tyr	Gln	Ala	Cys	Leu	Gly	Ser	Tyr	Ala	Gly	Met	Ile	Gly	Phe	Asp
	290			295						300					
Met	Thr	Pro	Asn	Tyr	Val	Asp	Ser	Ser	Pro	Thr	Gly	Ile	Val	Val	Ser
305				310						315					320
Pro	Trp	Cys	Ser	Cys	Arg	Gly	Ser	Gly	Asn	Met	Glu	Glu	Glu	Cys	Glu
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Gln	Ala	Phe	Gly	Asn	Gly	Thr	Asp	Val	Asn	Val	Ser	Pro	Lys	Gly	Pro
	355						360					365			

Ser	Phe	Gln	Ala	Thr	Gln	Ala	Pro	Arg	Val	Glu	Lys	Thr	Pro	Ser	Leu
	370					375					380				
Pro	Asp	Asp	Leu	Ser	Asp	Ser	Thr	Ser	Leu	Gly	Thr	Ser	Val	Ile	Thr
385					390					395					400
Thr	Cys	Thr	Ser	Val	Gln	Glu	Gln	Gly	Leu	Lys	Ala	Asn	Asn	Ser	Lys
				405					410					415	
Glu	Leu	Ser	Met	Cys	Phe	Thr	Glu	Leu	Thr	Thr	Asn	Ile	Ile	Pro	Gly
			420					425					430		
Ser	Asn	Lys	Val	Ile	Lys	Pro	Asn	Ser	Gly	Pro	Ser	Arg	Ala	Arg	Pro
	435						440					445			
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	450					455					460				

<210> 8

<211> 468

<212> PRT

<213> Rattus norvegicus

<400> 8

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			20					25					30		
Ser	Asp	Gln	Cys	Leu	Lys	Glu	Gln	Ser	Cys	Ser	Thr	Lys	Tyr	Arg	Thr
	35						40					45			
Leu	Arg	Gln	Cys	Val	Ala	Gly	Lys	Glu	Thr	Asn	Phe	Ser	Leu	Thr	Ser
	50					55				60					
Gly	Leu	Glu	Ala	Lys	Asp	Glu	Cys	Arg	Ser	Ala	Met	Glu	Ala	Leu	Lys
65				70					75						80
Gln	Lys	Ser	Leu	Tyr	Asn	Cys	Arg	Cys	Lys	Arg	Gly	Met	Lys	Lys	Glu
			85						90					95	
Lys	Asn	Cys	Leu	Arg	Ile	Tyr	Trp	Ser	Met	Tyr	Gln	Ser	Leu	Gln	Gly
			100					105					110		
Asn	Asp	Leu	Leu	Glu	Asp	Ser	Pro	Tyr	Glu	Pro	Val	Asn	Ser	Arg	Leu
	115						120					125			
Ser	Asp	Ile	Phe	Arg	Ala	Val	Pro	Phe	Ile	Ser	Asp	Val	Phe	Gln	Gln
	130					135					140				
Val	Glu	His	Ile	Ser	Lys	Gly	Asn	Asn	Cys	Leu	Asp	Ala	Ala	Lys	Ala
145					150					155					160
Cys	Asn	Leu	Asp	Asp	Thr	Cys	Lys	Lys	Tyr	Arg	Ser	Ala	Tyr	Ile	Thr
			165						170					175	
Pro	Cys	Thr	Thr	Ser	Met	Ser	Asn	Glu	Val	Cys	Asn	Arg	Arg	Lys	Cys
			180					185					190		
His	Lys	Ala	Leu	Arg	Gln	Phe	Phe	Asp	Lys	Val	Pro	Ala	Lys	His	Ser
	195					200						205			
Tyr	Gly	Met	Leu	Phe	Cys	Ser	Cys	Arg	Asp	Ile	Ala	Cys	Thr	Glu	Arg
	210					215					220				
Arg	Arg	Gln	Thr	Ile	Val	Pro	Val	Cys	Ser	Tyr	Glu	Glu	Arg	Glu	Arg
225					230					235					240
Pro	Asn	Cys	Leu	Ser	Leu	Gln	Asp	Ser	Cys	Lys	Thr	Asn	Tyr	Ile	Cys
			245						250					255	
Arg	Ser	Arg	Leu	Ala	Asp	Phe	Phe	Thr	Asn	Cys	Gln	Pro	Glu	Ser	Arg
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Ser	Val	Ser	Asn	Cys	Leu	Lys	Glu	Asn	Tyr	Ala	Asp	Cys	Leu	Leu	Ala
	275						280					285			
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290		295		300
Ser Ser Leu Ser Val Ala Pro Trp Cys Asp Cys Ser Asn Ser Gly Asn				
305		310		315
Asp Leu Glu Asp Cys Leu Lys Phe Leu Asn Phe Phe Lys Asp Asn Thr				
		325		330
				335
Cys Leu Lys Asn Ala Ile Gln Ala Phe Gly Asn Gly Ser Asp Val Thr				
		340		345
				350
Met Trp Gln Pro Ala Pro Pro Val Gln Thr Thr Thr Ala Thr Thr Thr				
		355		360
				365
Thr Ala Phe Arg Val Lys Asn Lys Pro Leu Gly Pro Ala Gly Ser Glu				
		370		375
				380
Asn Glu Ile Pro Thr His Val Leu Pro Pro Cys Ala Asn Leu Gln Ala				
385		390		395
				400
Gln Lys Leu Lys Ser Asn Val Ser Gly Ser Thr His Leu Cys Leu Ser				
		405		410
				415
Asp Ser Asp Phe Gly Lys Asp Gly Leu Ala Gly Ala Ser Ser His Ile				
		420		425
				430
Thr Thr Lys Ser Met Ala Ala Pro Pro Ser Cys Ser Leu Ser Ser Leu				
		435		440
				445
Pro Val Leu Met Leu Thr Ala Leu Ala Ala Leu Leu Ser Val Ser Leu				
		450		455
				460
Ala Glu Thr Ser				
465				

<210> 9

<211> 464

<212> PRT

<213> Rattus Norvegicus

<400> 9

Met Ile Leu Ala Asn Ala Phe Cys Leu Phe Phe Phe Leu Asp Glu Thr				
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				15
Leu Arg Ser Leu Ala Ser Pro Ser Ser Leu Gln Gly Ser Glu Leu His				
		20		25
				30
Gly Trp Arg Pro Gln Val Asp Cys Val Arg Ala Asn Glu Leu Cys Ala				
		35		40
				45
Ala Glu Ser Asn Cys Ser Ser Arg Tyr Arg Thr Leu Arg Gln Cys Leu				
		50		55
				60
Ala Gly Arg Asp Arg Asn Thr Met Leu Ala Asn Lys Glu Cys Gln Ala				
65		70		75
				80
Ala Leu Glu Val Leu Gln Glu Ser Pro Leu Tyr Asp Cys Arg Cys Lys				
		85		90
				95
Arg Gly Met Lys Lys Glu Leu Gln Cys Leu Gln Ile Tyr Trp Ser Ile				
		100		105
				110
His Leu Gly Leu Thr Glu Gly Glu Glu Phe Tyr Glu Ala Ser Pro Tyr				
		115		120
				125
Glu Pro Val Thr Ser Arg Leu Ser Asp Ile Phe Arg Leu Ala Ser Ile				
		130		135
				140
Phe Ser Gly Thr Gly Thr Asp Pro Ala Val Ser Thr Lys Ser Asn His				
145		150		155
				160
Cys Leu Asp Ala Ala Lys Ala Cys Asn Leu Asn Asp Asn Cys Lys Lys				
		165		170
				175
Leu Arg Ser Ser Tyr Ile Ser Ile Cys Asn Arg Glu Ile Ser Pro Thr				
		180		185
				190
Glu Arg Cys Asn Arg Arg Lys Cys His Lys Ala Leu Arg Gln Phe Phe				
		195		200
				205

Asp	Arg	Val	Pro	Ser	Glu	Tyr	Thr	Tyr	Arg	Met	Leu	Phe	Cys	Ser	Cys
210						215					220				
Gln	Asp	Gln	Ala	Cys	Ala	Glu	Arg	Arg	Arg	Gln	Thr	Ile	Leu	Pro	Ser
225					230					235					240
Cys	Ser	Tyr	Glu	Asp	Lys	Glu	Lys	Pro	Asn	Cys	Leu	Asp	Leu	Arg	Ser
				245					250						255
Leu	Cys	Arg	Thr	Asp	His	Leu	Cys	Arg	Ser	Arg	Leu	Ala	Asp	Phe	His
			260					265					270		
Ala	Asn	Cys	Arg	Ala	Ser	Tyr	Arg	Thr	Ile	Thr	Ser	Cys	Pro	Ala	Asp
		275					280					285			
Asn	Tyr	Gln	Ala	Cys	Leu	Gly	Ser	Tyr	Ala	Gly	Met	Ile	Gly	Phe	Asp
290						295					300				
Met	Thr	Pro	Asn	Tyr	Val	Asp	Ser	Asn	Pro	Thr	Gly	Ile	Val	Val	Ser
305					310					315					320
Pro	Trp	Cys	Asn	Cys	Arg	Gly	Ser	Gly	Asn	Met	Glu	Glu	Glu	Cys	Glu
				325					330					335	
Lys	Phe	Leu	Arg	Asp	Phe	Thr	Glu	Asn	Pro	Cys	Leu	Arg	Asn	Ala	Ile
			340					345					350		
Gln	Ala	Phe	Gly	Asn	Gly	Thr	Asp	Val	Asn	Met	Ser	Pro	Lys	Gly	Pro
		355					360					365			
Ser	Leu	Pro	Ala	Thr	Gln	Ala	Pro	Arg	Val	Glu	Lys	Thr	Pro	Ser	Leu
		370				375					380				
Pro	Asp	Asp	Leu	Ser	Asp	Ser	Thr	Ser	Leu	Gly	Thr	Ser	Val	Ile	Thr
385					390					395					400
Thr	Cys	Thr	Ser	Ile	Gln	Glu	Gln	Gly	Leu	Lys	Ala	Asn	Asn	Ser	Lys
				405				410						415	
Glu	Leu	Ser	Met	Cys	Phe	Thr	Glu	Leu	Thr	Thr	Asn	Ile	Ser	Pro	Gly
			420					425				430			
Ser	Lys	Lys	Val	Ile	Lys	Leu	Asn	Ser	Gly	Ser	Ser	Arg	Ala	Arg	Leu
		435					440					445			
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<210> 10
 <211> 282
 <212> DNA
 <213> Homo sapiens

<220>

<221> unsure
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 cccctgaacc cgcgaccgct gccgccgta gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180
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 tgtctccagg ccaggaggaa gtgccaggct gatccacct gc 282

<210> 11
 <211> 20
 <212> DNA
 <213> Homo sapiens

<400> 11
gcctctcgca gccggagacc

20

<210> 12
<211> 21
<212> DNA
<213> Homo sapiens

<400> 12
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21

<210> 13
<211> 41
<212> DNA
<213> Homo sapiens

<400> 13
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41

<210> 14
<211> 1792
<212> DNA
<213> Homo sapiens

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atgaacagct gtctccaggc caggaggaag tgccaggctg atcccacctg cagtgctgcc 180
taccaccacc tggattcctg cacctctagc ataagcacc cactgccctc agaggagcct 240
tcggtccctg ctgactgcct ggaggcagca cagcaactca ggaacagctc tctgataggc 300
tgcatgtgcc accggcgcat gaagaaccag gttgcctgct tggacatcta ttggaccgtt 360
caccgtgccc gcagccttgg taactatgag ctggtgtct cccctatga agacacagt 420
accagcaaac cctggaaaaa gaatctcagc aaactgaaca tgctcaaacc agactcagac 480
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gcctacgggg aggcgtgctc cgggccccac tgccagcgcc acgtctgcct caggcagctg 600
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gcccccaacg accggggctg cggggagcgc cggcgcaaca ccacgcccc caactgcgcg 720
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<210> 15

<211> 400
 <212> PRT
 <213> Homo Sapiens

<400> 15

Met	Val	Arg	Pro	Leu	Asn	Pro	Arg	Pro	Leu	Pro	Pro	Val	Val	Leu	Met
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			20					25					30		
Pro	Leu	Pro	Thr	Glu	Ser	Arg	Leu	Met	Asn	Ser	Cys	Leu	Gln	Ala	Arg
		35					40					45			
Arg	Lys	Cys	Gln	Ala	Asp	Pro	Thr	Cys	Ser	Ala	Ala	Tyr	His	His	Leu
50					55					60					
Asp	Ser	Cys	Thr	Ser	Ser	Ile	Ser	Thr	Pro	Leu	Pro	Ser	Glu	Glu	Pro
65					70					75					80
Ser	Val	Pro	Ala	Asp	Cys	Leu	Glu	Ala	Ala	Gln	Gln	Leu	Arg	Asn	Ser
				85					90					95	
Ser	Leu	Ile	Gly	Cys	Met	Cys	His	Arg	Arg	Met	Lys	Asn	Gln	Val	Ala
			100					105					110		
Cys	Leu	Asp	Ile	Tyr	Trp	Thr	Val	His	Arg	Ala	Arg	Ser	Leu	Gly	Asn
		115					120					125			
Tyr	Glu	Leu	Asp	Val	Ser	Pro	Tyr	Glu	Asp	Thr	Val	Thr	Ser	Lys	Pro
		130				135					140				
Trp	Lys	Met	Asn	Leu	Ser	Lys	Leu	Asn	Met	Leu	Lys	Pro	Asp	Ser	Asp
145					150					155					160
Leu	Cys	Leu	Lys	Phe	Ala	Met	Leu	Cys	Thr	Leu	Asn	Asp	Lys	Cys	Asp
				165					170					175	
Arg	Leu	Arg	Lys	Ala	Tyr	Gly	Glu	Ala	Cys	Ser	Gly	Pro	His	Cys	Gln
			180					185					190		
Arg	His	Val	Cys	Leu	Arg	Gln	Leu	Leu	Thr	Phe	Phe	Glu	Lys	Ala	Ala
		195					200					205			
Glu	Pro	His	Ala	Gln	Gly	Leu	Leu	Cys	Pro	Cys	Ala	Pro	Asn	Asp	
		210				215				220					
Arg	Gly	Cys	Gly	Glu	Arg	Arg	Arg	Asn	Thr	Ile	Ala	Pro	Asn	Cys	Ala
225					230					235					240
Leu	Pro	Pro	Val	Ala	Pro	Asn	Cys	Leu	Glu	Leu	Arg	Arg	Leu	Cys	Phe
				245					250					255	
Ser	Asp	Pro	Leu	Cys	Arg	Ser	Arg	Leu	Val	Asp	Phe	Gln	Thr	His	Cys
			260					265					270		
His	Pro	Met	Asp	Ile	Leu	Gly	Thr	Cys	Ala	Thr	Glu	Gln	Ser	Arg	Cys
		275					280					285			
Leu	Arg	Ala	Tyr	Leu	Gly	Leu	Ile	Gly	Thr	Ala	Met	Thr	Pro	Asn	Phe
		290				295					300				
Val	Ser	Asn	Val	Asn	Thr	Ser	Val	Ala	Leu	Ser	Cys	Thr	Cys	Arg	Gly
305					310					315					320
Ser	Gly	Asn	Leu	Gln	Glu	Glu	Cys	Glu	Met	Leu	Glu	Gly	Phe	Phe	Ser
				325					330					335	
His	Asn	Pro	Cys	Leu	Thr	Glu	Ala	Ile	Ala	Ala	Lys	Met	Arg	Phe	His
			340					345					350		
Ser	Gln	Leu	Phe	Ser	Gln	Asp	Trp	Pro	His	Pro	Thr	Phe	Ala	Val	Met
		355					360					365			
Ala	His	Gln	Asn	Glu	Asn	Pro	Ala	Val	Arg	Pro	Gln	Pro	Trp	Val	Pro
		370				375					380				
Ser	Leu	Phe	Ser	Cys	Thr	Leu	Pro	Leu	Ile	Leu	Leu	Leu	Ser	Leu	Trp
385					390					395					400

<210> 16
 <211> 1837
 <212> DNA
 <213> Homo sapeins

<400> 16
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 ggtgccggtc gagggagccc cgctctcaga gctccagggg aggagcgagg ggagcgcgga 120
 gcccggcgcc tacagctcgc catggtgcgc cccctgaacc cgcgaccgct gccgcccgtg 180
 gtctctgatgt tgctgtgtgt gctgccgccg tcgccgctgc ctctcgcagc cggagacccc 240
 ctccccacag aaagccgact catgaacagc tgtctccagg ccaggaggaa gtgccaggct 300
 gatccacact gcagtgtgc ctaccaccac ctggattcct gcacctctag cataagcacc 360
 ccactgccct cagaggagcc ttccggtccct gctgactgcc tggaggcagc acagcaactc 420
 aggaacagct ctctgatagg ctctatgtgc caccggcgca tgaagaacca ggttgcctgc 480
 ttggacatct attggaccgt tcaccgtgcc cgcagccttg actcagacct ctgcctcaag 540
 tttgccatgc tgtgtactct caatgacaag tgtgaccggc tgcgcaaggc ctacggggag 600
 gcgtgtctccg ggccccactg ccagcgccac gtctgcctca ggcagctgct cactttcttc 660
 gagaaggccg ccgagcccca cgcgcagggc ctgctactgt gccatgtgc ccccaacgac 720
 cggggctgcg gggagcgccg gcgcaacacc atcgcccca actgcgcgct gccgcctgtg 780
 gcccccaact gcctggagct gcggcgctc tgcctctccg acccgcttg cagatcacgc 840
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 cagtccagat gtctacgagc atacctgggg ctgattggga ctgccatgac ccccaacttt 960
 gtcagcaatg tcaacaccag tgttgcccta agctgcacct gccgaggcag tggcaacctg 1020
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 attgcagcta agatgcgttt tcacagccaa ctcttctccc aggactggcc acaccctacc 1140
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 tctcttttct cctgcacgct tcccttgatt ctgctcctga gcctatggta gctggacttc 1260
 cccaggggccc tcttcccctc caccacaccc aggtggactt gcagcccaca aggggtgagg 1320
 aaaggacagc agcaggaagg aggtgcagt cgcagatgag ggcacaggag aagctaaggg 1380
 ttatgacctc cagatcctta ctggtccagt cctcattccc tccaccccat ctccacttct 1440
 gattcatgct gcccctcctt ggtggccaca atttagccat gtcatctggt ggtgaccagc 1500
 tccaccaagc ccctttctga gcccttctc ttgactacca ggatcaccag aatctaataa 1560
 gttagccttt ctctattgca ttccagatta ggggtagggt agggaggact ggggtgtctg 1620
 aggcagccta gaaagtccatt ctcccttctg aagaaggctc ctgccccctc gtctcctcct 1680
 ctgagtggag gatgaaaac tactgcctgc actgccctgt ccccgatcc tgccgaacat 1740
 ctgggcatca ggagctggag cctgtgggcc ttgctttatt cctattattg tcctaaagtc 1800
 tctctgggct cttggatcat gattaaacct ttgactt 1837

<210> 17
 <211> 369
 <212> PRT
 <213> Homo sapiens

<400> 17
 Met Val Arg Pro Leu Asn Pro Arg Pro Leu Pro Pro Val Val Leu Met
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 20 25 30
 Pro Leu Pro Thr Glu Ser Arg Leu Met Asn Ser Cys Leu Gln Ala Arg
 35 40 45
 Arg Lys Cys Gln Ala Asp Pro Thr Cys Ser Ala Ala Tyr His His Leu
 50 55 60
 Asp Ser Cys Thr Ser Ser Ile Ser Thr Pro Leu Pro Ser Glu Glu Pro
 65 70 75 80
 Ser Val Pro Ala Asp Cys Leu Glu Ala Ala Gln Gln Leu Arg Asn Ser
 85 90 95
 Ser Leu Ile Gly Cys Met Cys His Arg Arg Met Lys Asn Gln Val Ala

				85				90					95				
Ser	Leu	Ile	Gly	Cys	Met	Cys	His	Arg	Arg	Met	Lys	Asn	Gln	Val	Ala		
			100					105					110				
Cys	Leu	Asp	Ile	Tyr	Trp	Thr	Val	His	Arg	Ala	Arg	Ser	Leu	Gly	Asn		
		115					120					125					
Tyr	Glu	Leu	Asp	Val	Ser	Pro	Tyr	Glu	Asp	Thr	Val	Thr	Ser	Lys	Pro		
	130					135					140						
Trp	Lys	Met	Asn	Leu	Ser	Lys	Leu	Asn	Met	Leu	Lys	Pro	Asp	Ser	Asp		
145					150				155						160		
Leu	Cys	Leu	Lys	Phe	Ala	Met	Leu	Cys	Thr	Leu	Asn	Asp	Lys	Cys	Asp		
			165						170					175			
Arg	Leu	Arg	Lys	Ala	Tyr	Gly	Glu	Ala	Cys	Ser	Gly	Pro	His	Cys	Gln		
			180					185					190				
Arg	His	Val	Cys	Leu	Arg	Gln	Leu	Leu	Thr	Phe	Phe	Glu	Lys	Ala	Ala		
		195				200						205					
Glu	Pro	His	Ala	Gln	Gly	Leu	Leu	Leu	Cys	Pro	Cys	Ala	Pro	Asn	Asp		
	210					215					220						
Arg	Gly	Cys	Gly	Glu	Arg	Arg	Arg	Asn	Thr	Ile	Ala	Pro	Asn	Cys	Ala		
225					230				235						240		
Leu	Pro	Pro	Val	Ala	Pro	Asn	Cys	Leu	Glu	Leu	Arg	Arg	Leu	Cys	Phe		
			245					250					255				
Ser	Asp	Pro	Leu	Cys	Arg	Ser	Arg	Leu	Val	Asp	Phe	Gln	Thr	His	Cys		
		260						265					270				
His	Pro	Met	Asp	Ile	Leu	Gly	Thr	Cys	Ala	Thr	Glu	Gln	Ser	Arg	Cys		
		275					280					285					
Leu	Arg	Ala	Tyr	Leu	Gly	Leu	Ile	Gly	Thr	Ala	Met	Thr	Pro	Asn	Phe		
	290					295					300						
Val	Ser	Asn	Val	Asn	Thr	Ser	Val	Ala	Leu	Ser	Cys	Thr	Cys	Arg	Gly		
305					310				315						320		
Ser	Gly	Asn	Leu	Gln	Glu	Glu	Cys	Glu	Met	Leu	Glu	Gly	Phe	Phe	Ser		
			325					330					335				
His	Asn	Pro	Cys	Leu	Thr	Glu	Ala	Ile	Ala	Ala	Lys	Met	Arg	Phe	His		
		340						345					350				
Ser	Gln	Leu	Phe	Ser	Gln	Asp	Trp	Pro	His	Pro	Thr	Phe	Ala	Val	Met		
		355				360						365					
Ala	His	Gln	Asn	Glu	Asn	Pro	Ala	Val	Arg	Pro	Gln	Pro	Trp	Val	Pro		
	370					375					380						
Ser	Leu	Phe	Ser	Cys	Thr	Leu	Pro	Leu	Ile	Leu	Leu	Leu	Ser	Leu	Trp		
385					390				395						400		
Pro	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu		
			405					410					415				
Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu		
		420						425					430				
Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser		
		435					440					445					
His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu		
	450					455					460						
Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr		
465					470				475						480		
Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn		
			485					490					495				
Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro		
		500						505				510					
Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln		
		515					520					525					
Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val		
	530					535					540						

Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val
545				550					555					560	
Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro
			565					570					575		
Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr
			580					585					590		
Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val
		595				600						605			
Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu
	610					615					620				
Ser	Pro	Gly	Lys												
625															

<210> 19

<211> 951

<212> PRT

<213> Artificial Sequence

<220>

<223> Chimeric receptor comprising rat sequence.

<400> 19

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Ile	Val	Gly	Leu	His	Gly	Val	Arg	Gly	Lys	Tyr	Ala	Leu	Ala	Asp	Ala
			20					25					30		
Ser	Leu	Lys	Met	Ala	Asp	Pro	Asn	Arg	Phe	Arg	Gly	Lys	Asp	Leu	Pro
		35				40						45			
Val	Leu	Asp	Gln	Leu	Leu	Glu	Pro	Ser	Ser	Leu	Gln	Gly	Ser	Glu	Leu
	50					55					60				
His	Gly	Trp	Arg	Pro	Gln	Val	Asp	Cys	Val	Arg	Ala	Asn	Glu	Leu	Cys
65					70					75				80	
Ala	Ala	Glu	Ser	Asn	Cys	Ser	Ser	Arg	Tyr	Arg	Thr	Leu	Arg	Gln	Cys
				85					90					95	
Leu	Ala	Gly	Arg	Asp	Arg	Asn	Thr	Met	Leu	Ala	Asn	Lys	Glu	Cys	Gln
			100					105					110		
Ala	Ala	Leu	Glu	Val	Leu	Gln	Glu	Ser	Pro	Leu	Tyr	Asp	Cys	Arg	Cys
		115					120					125			
Lys	Arg	Gly	Met	Lys	Lys	Glu	Leu	Gln	Cys	Leu	Gln	Ile	Tyr	Trp	Ser
	130					135					140				
Ile	His	Leu	Gly	Leu	Thr	Glu	Gly	Glu	Glu	Phe	Tyr	Glu	Ala	Ser	Pro
145					150					155				160	
Tyr	Glu	Pro	Val	Thr	Ser	Arg	Leu	Ser	Asp	Ile	Phe	Arg	Leu	Ala	Ser
				165					170					175	
Ile	Phe	Ser	Gly	Thr	Gly	Thr	Asp	Pro	Ala	Val	Ser	Thr	Lys	Ser	Asn
			180					185					190		
His	Cys	Leu	Asp	Ala	Ala	Lys	Ala	Cys	Asn	Leu	Asn	Asp	Asn	Cys	Lys
		195					200					205			
Lys	Leu	Arg	Ser	Ser	Tyr	Ile	Ser	Ile	Cys	Asn	Arg	Glu	Ile	Ser	Pro
	210					215					220				
Thr	Glu	Arg	Cys	Asn	Arg	Arg	Lys	Cys	His	Lys	Ala	Leu	Arg	Gln	Phe
225					230					235				240	
Phe	Asp	Arg	Val	Pro	Ser	Glu	Tyr	Thr	Tyr	Arg	Met	Leu	Phe	Cys	Ser
				245					250					255	
Cys	Gln	Asp	Gln	Ala	Cys	Ala	Glu	Arg	Arg	Arg	Gln	Thr	Ile	Leu	Pro
			260					265					270		

Ser	Cys	Ser	Tyr	Glu	Asp	Lys	Glu	Lys	Pro	Asn	Cys	Leu	Asp	Leu	Arg
		275					280					285			
Ser	Leu	Cys	Arg	Thr	Asp	His	Leu	Cys	Arg	Ser	Arg	Leu	Ala	Asp	Phe
	290					295					300				
His	Ala	Asn	Cys	Arg	Ala	Ser	Tyr	Arg	Thr	Ile	Thr	Ser	Cys	Pro	Ala
305					310					315					320
Asp	Asn	Tyr	Gln	Ala	Cys	Leu	Gly	Ser	Tyr	Ala	Gly	Met	Ile	Gly	Phe
				325					330					335	
Asp	Met	Thr	Pro	Asn	Tyr	Val	Asp	Ser	Asn	Pro	Thr	Gly	Ile	Val	Val
			340					345					350		
Ser	Pro	Trp	Cys	Asn	Cys	Arg	Gly	Ser	Gly	Asn	Met	Glu	Glu	Glu	Cys
		355					360					365			
Glu	Lys	Phe	Leu	Arg	Asp	Phe	Thr	Glu	Asn	Pro	Cys	Leu	Arg	Asn	Ala
	370					375					380				
Ile	Gln	Ala	Phe	Gly	Asn	Gly	Thr	Asp	Val	Asn	Met	Ser	Pro	Lys	Gly
385					390					395					400
Pro	Ser	Leu	Pro	Ala	Thr	Gln	Ala	Pro	Arg	Val	Glu	Lys	Thr	Pro	Ser
				405					410					415	
Leu	Pro	Asp	Asp	Leu	Ser	Asp	Ser	Thr	Ser	Leu	Gly	Thr	Ser	Val	Ile
			420					425					430		
Thr	Thr	Cys	Thr	Ser	Ile	Gln	Glu	Gln	Gly	Leu	Lys	Ala	Asn	Asn	Ser
		435					440					445			
Lys	Glu	Leu	Ser	Met	Cys	Phe	Thr	Glu	Leu	Thr	Thr	Asn	Ile	Ile	Pro
	450					455					460				
Gly	Trp	Arg	Ala	Trp	Val	Pro	Val	Val	Leu	Gly	Val	Leu	Thr	Ala	Leu
465					470					475					480
Val	Thr	Ala	Ala	Ala	Leu	Ala	Leu	Ile	Leu	Leu	Arg	Lys	Arg	Arg	Lys
				485					490					495	
Glu	Thr	Arg	Phe	Gly	Gln	Ala	Phe	Asp	Ser	Val	Met	Ala	Arg	Gly	Glu
			500					505					510		
Pro	Ala	Val	His	Phe	Arg	Ala	Ala	Arg	Ser	Phe	Asn	Arg	Glu	Arg	Pro
		515					520					525			
Glu	Arg	Ile	Glu	Ala	Thr	Leu	Asp	Ser	Leu	Gly	Ile	Ser	Asp	Glu	Leu
	530					535					540				
Lys	Glu	Lys	Leu	Glu	Asp	Val	Leu	Ile	Pro	Glu	Gln	Gln	Phe	Thr	Leu
545					550					555					560
Gly	Arg	Met	Leu	Gly	Lys	Gly	Glu	Phe	Gly	Ser	Val	Arg	Glu	Ala	Gln
				565					570					575	
Leu	Lys	Gln	Glu	Asp	Gly	Ser	Phe	Val	Lys	Val	Ala	Val	Lys	Met	Leu
			580					585					590		
Lys	Ala	Asp	Ile	Ile	Ala	Ser	Ser	Asp	Ile	Glu	Glu	Phe	Leu	Arg	Glu
		595					600					605			
Ala	Ala	Cys	Met	Lys	Glu	Phe	Asp	His	Pro	His	Val	Ala	Lys	Leu	Val
	610					615					620				
Gly	Val	Ser													

				725					730					735			
Lys	Trp	Leu	Ala	Leu	Glu	Ser	Leu	Ala	Asp	Asn	Leu	Tyr	Thr	Val	Gln		
			740					745					750				
Ser	Asp	Val	Trp	Ala	Phe	Gly	Val	Thr	Met	Trp	Glu	Ile	Met	Thr	Arg		
		755					760					765					
Gly	Gln	Thr	Pro	Tyr	Ala	Gly	Ile	Glu	Asn	Ala	Glu	Ile	Tyr	Asn	Tyr		
	770					775					780						
Leu	Ile	Gly	Gly	Asn	Arg	Leu	Lys	Gln	Pro	Pro	Glu	Cys	Met	Glu	Asp		
785				790					795					800			
Val	Tyr	Asp	Leu	Met	Tyr	Gln	Cys	Trp	Ser	Ala	Asp	Pro	Lys	Gln	Arg		
			805					810					815				
Pro	Ser	Phe	Thr	Cys	Leu	Arg	Met	Glu	Leu	Glu	Asn	Ile	Leu	Gly	Gln		
			820					825					830				
Leu	Ser	Val	Leu	Ser	Ala	Ser	Gln	Asp	Pro	Leu	Tyr	Ile	Asn	Ile	Glu		
	835						840					845					
Arg	Ala	Glu	Glu	Pro	Thr	Ala	Gly	Gly	Ser	Leu	Glu	Leu	Pro	Gly	Arg		
	850					855					860						
Asp	Gln	Pro	Tyr	Ser	Gly	Ala	Gly	Asp	Gly	Ser	Gly	Met	Gly	Ala	Val		
865					870				875					880			
Gly	Gly	Thr	Pro	Ser	Asp	Cys	Arg	Tyr	Ile	Leu	Thr	Pro	Gly	Gly	Leu		
			885					890					895				
Ala	Glu	Gln	Pro	Gly	Gln	Ala	Glu	His	Gln	Pro	Glu	Ser	Pro	Leu	Asn		
			900					905					910				
Glu	Thr	Gln	Arg	Leu	Leu	Leu	Leu	Gln	Gln	Gly	Leu	Leu	Pro	His	Ser		
	915						920					925					
Ser	Cys	Ala	Asp	Ala	Ser	Leu	Lys	Met	Ala	Asp	Pro	Asn	Arg	Phe	Arg		
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Gly	Lys	Asp	Leu	Pro	Val	Leu											
945					950												

<210> 20

<211> 888

<212> PRT

<213> Artificial Sequence

<220>

<223> Chimeric receptor comprising murine sequence.

<400> 20

Met	Gly	Gly	Thr	Ala	Ala	Arg	Leu	Gly	Ala	Val	Ile	Leu	Phe	Val	Val		
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Ile	Val	Gly	Leu	His	Gly	Val	Arg	Gly	Lys	Tyr	Ala	Leu	Ala	Asp	Ala		
		20					25					30					
Ser	Leu	Lys	Met	Ala	Asp	Pro	Asn	Arg	Phe	Arg	Gly	Lys	Asp	Leu	Pro		
	35					40					45						
Val	Leu	Asp	Gln	Leu	Leu	Glu	Ala	Gly	Asn	Ser	Leu	Ala	Thr	Glu	Asn		
	50				55					60							
Arg	Phe	Val	Asn	Ser	Cys	Thr	Gln	Ala	Arg	Lys	Lys	Cys	Glu	Ala	Asn		
65			70						75					80			
Pro	Ala	Cys	Lys	Ala	Ala	Tyr	Gln	His	Leu	Gly	Ser	Cys	Thr	Ser	Ser		
			85					90					95				
Leu	Ser	Arg	Pro	Leu	Pro	Leu	Glu	Glu	Ser	Ala	Met	Ser	Ala	Asp	Cys		
		100					105					110					
Leu	Glu	Ala	Ala	Glu	Gln	Leu	Arg	Asn	Ser	Ser	Leu	Ile	Asp	Cys	Arg		
	115					120					125						
Cys	His	Arg	Arg	Met	Lys	His	Gln	Ala	Thr	Cys	Leu	Asp	Ile	Tyr	Trp		

130	135	140
Thr Val His Pro Ala Arg Ser Leu Gly Asp Tyr Glu Leu Asp Val Ser		
145	150	155
Pro Tyr Glu Asp Thr Val Thr Ser Lys Pro Trp Lys Met Asn Leu Ser		160
	165	170
Lys Leu Asn Met Leu Lys Pro Asp Ser Asp Leu Cys Leu Lys Phe Ala		175
	180	185
Met Leu Cys Thr Leu His Asp Lys Cys Asp Arg Leu Arg Lys Ala Tyr		190
	195	200
Gly Glu Ala Cys Ser Gly Ile Arg Cys Gln Arg His Leu Cys Leu Ala		205
	210	215
Gln Leu Arg Ser Phe Phe Glu Lys Ala Ala Glu Ser His Ala Gln Gly		220
225	230	235
Leu Leu Leu Cys Pro Cys Pro Pro Glu Asp Ala Gly Cys Gly Glu Arg		240
	245	250
Arg Arg Asn Thr Ile Ala Pro Ser Cys Ala Leu Pro Ser Val Thr Pro		255
	260	265
Asn Cys Leu Asp Leu Arg Ser Phe Cys Arg Ala Asp Pro Leu Cys Arg		270
	275	280
Ser Arg Leu Met Asp Phe Gln Thr His Cys His Pro Met Asp Ile Leu		285
	290	295
Gly Thr Cys Ala Thr Glu Gln Ser Arg Cys Leu Arg Ala Tyr Leu Gly		300
305	310	315
Leu Ile Gly Thr Ala Met Thr Pro Asn Phe Ile Ser Lys Val Asn Thr		320
	325	330
Thr Val Ala Leu Ser Cys Thr Cys Arg Gly Ser Gly Asn Leu Gln Asp		335
	340	345
Glu Cys Glu Gln Leu Glu Arg Ser Phe Ser Gln Asn Pro Cys Leu Val		350
	355	360
Glu Ala Ile Ala Ala Lys Met Arg Phe His Arg Gln Leu Phe Ser Gln		365
	370	375
Asp Trp Ala Asp Ser Thr Phe Ser Val Val Gln Gln Gln Asn Ser Asn		380
385	390	395
Pro Ala Trp Arg Ala Trp Val Pro Val Val Leu Gly Val Leu Thr Ala		400
	405	410
Leu Val Thr Ala Ala Ala Leu Ala Leu Ile Leu Leu Arg Lys Arg Arg		415
	420	425
Lys Glu Thr Arg Phe Gly Gln Ala Phe Asp Ser Val Met Ala Arg Gly		430
	435	440
Glu Pro Ala Val His Phe Arg Ala Ala Arg Ser Phe Asn Arg Glu Arg		445
	450	455
Pro Glu Arg Ile Glu Ala Thr Leu Asp Ser Leu Gly Ile Ser Asp Glu		460
465	470	475
Leu Lys Glu Lys Leu Glu Asp Val Leu Ile Pro Glu Gln Gln Phe Thr		480
	485	490
Leu Gly Arg Met Leu Gly Lys Gly Glu Phe Gly Ser Val Arg Glu Ala		495
	500	505
Gln Leu Lys Gln Glu Asp Gly Ser Phe Val Lys Val Ala Val Lys Met		510
	515	520
Leu Lys Ala Asp Ile Ile Ala Ser Ser Asp Ile Glu Glu Phe Leu Arg		525
	530	535
Glu Ala Ala Cys Met Lys Glu Phe Asp His Pro His Val Ala Lys Leu		540
545	550	555
Val Gly Val Ser Leu Arg Ser Arg Ala Lys Gly Arg Leu Pro Ile Pro		560
	565	570
Met Val Ile Leu Pro Phe Met Lys His Gly Asp Leu His Ala Phe Leu		575
	580	585
		590

Leu	Ala	Ser	Arg	Ile	Gly	Glu	Asn	Pro	Phe	Asn	Leu	Pro	Leu	Gln	Thr	
		595					600					605				
Leu	Ile	Arg	Phe	Met	Val	Asp	Ile	Ala	Cys	Gly	Met	Glu	Tyr	Leu	Ser	
		610				615					620					
Ser	Arg	Asn	Phe	Ile	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Cys	Met	Leu	
		625			630					635					640	
Ala	Glu	Asp	Met	Thr	Val	Cys	Val	Ala	Asp	Phe	Gly	Leu	Ser	Arg	Lys	
			645						650						655	
Ile	Tyr	Ser	Gly	Asp	Tyr	Tyr	Arg	Gln	Gly	Cys	Ala	Ser	Lys	Leu	Pro	
			660					665						670		
Val	Lys	Trp	Leu	Ala	Leu	Glu	Ser	Leu	Ala	Asp	Asn	Leu	Tyr	Thr	Val	
		675					680					685				
Gln	Ser	Asp	Val	Trp	Ala	Phe	Gly	Val	Thr	Met	Trp	Glu	Ile	Met	Thr	
		690				695					700					
Arg	Gly	Gln	Thr	Pro	Tyr	Ala	Gly	Ile	Glu	Asn	Ala	Glu	Ile	Tyr	Asn	
		705			710					715					720	
Tyr	Leu	Ile	Gly	Gly	Asn	Arg	Leu	Lys	Gln	Pro	Pro	Glu	Cys	Met	Glu	
			725						730					735		
Asp	Val	Tyr	Asp	Leu	Met	Tyr	Gln	Cys	Trp	Ser	Ala	Asp	Pro	Lys	Gln	
			740					745					750			
Arg	Pro	Ser	Phe	Thr	Cys	Leu	Arg	Met	Glu	Leu	Glu	Asn	Ile	Leu	Gly	
		755					760					765				
Gln	Leu	Ser	Val	Leu	Ser	Ala	Ser	Gln	Asp	Pro	Leu	Tyr	Ile	Asn	Ile	
		770				775					780					
Glu	Arg	Ala	Glu	Glu	Pro	Thr	Ala	Gly	Gly	Ser	Leu	Glu	Leu	Pro	Gly	
					790					795					800	
Arg	Asp	Gln	Pro	Tyr	Ser	Gly	Ala	Gly	Asp	Gly	Ser	Gly	Met	Gly	Ala	
				805					810					815		
Val	Gly	Gly	Thr	Pro	Ser	Asp	Cys	Arg	Tyr	Ile	Leu	Thr	Pro	Gly	Gly	
			820					825					830			
Leu	Ala	Glu	Gln	Pro	Gly	Gln	Ala	Glu	His	Gln	Pro	Glu	Ser	Pro	Leu	
		835					840					845				
Asn	Glu	Thr	Gln	Arg	Leu	Leu	Leu	Gln	Gln	Gly	Leu	Leu	Pro	His		
		850				855				860						
Ser	Ser	Cys	Ala	Asp	Ala	Ser	Leu	Lys	Met	Ala	Asp	Pro	Asn	Arg	Phe	
		865			870					875					880	
Arg	Gly	Lys	Asp	Leu	Pro	Val	Leu									
				885												

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 <212> DNA
 <213> Homo sapiens

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37

<210> 22
 <211> 20
 <212> DNA
 <213> Mus musculus

<400> 22
 gccgcgacc tccactgctg

20

<210> 23

<211> 18
<212> DNA
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<400> 23
ctgtggggag cggcggcg 18

<210> 24
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cctgaaccta tggtaactgg 20

<210> 25
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<213> Mus musculus

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acccagtcct ccctacc 17